

Application Number 09/975,286
Responsive to Office Action mailed October 4, 2005

REMARKS

This amendment is responsive to the Office Action dated October 4, 2005. Applicant has amended claims 1, 3, 7, 11, 15, 20 and 24-26, and cancelled claims 6 and 9-10. Claims 1-5, 7, 8, and 11-26 are pending upon entry of this amendment.

Information Disclosure Statements

In the Office Action, the Examiner requested copies of the prior art references mention in the disclosure. Applicant thanks the Examiner for the request, and has submitted an Information Disclosure Statement listing the prior art references under separate cover.

Claim Rejection Under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 3, 14, 15, 20, 25 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, the Examiner identified several limitations as lacking antecedent basis. Applicant has amended claims 3, 14, 15, 20 and 25 for purposes of clarification. Applicant submits that claims, as amended, particularly point out and distinctly claim the subject matter, as required by 35 U.S.C. 112, second paragraph.

Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1-3, 5, 6, 8, 9, 14-17, 19-20 and 22-26 under 35 U.S.C. 103(a) as being unpatentable over Branstad et al. (USPN 6,842,860) in view of HTTP 1.1, Fielding et al., June 28, 2001, pages 1-6, Chapter 3 Protocol Parameters", pages 1-10, Chapter 4 HTTP Message, pages 1-4. Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Applicant's claim 1 is directed to a method for comparing an unknown string to a predefined string and requires in part performing a bitwise exclusive OR operation between an ASCII binary representation of at least a segment of the unknown string and an ASCII binary

Application Number 09/975,286
Responsive to Office Action mailed October 4, 2005

representation of at least a segment of the predefined string. In other words, the XOR operation of claim 1 is applied to the strings being compared, and those strings are inputs to that XOR operation.

With respect to this element, the Examiner asserts that Branstad discloses comparing a known string with an unknown string using an XOR operation and specifically relies on Branstad at col. 22, ll. 2-21. However, this portion of Branstad does not describe applying an XOR operation to two strings, i.e., applying an XOR operation where the inputs to the XOR operation are the two strings that are being compared.

Quite the contrary, this portion of Branstad describes application of an XOR operation when computing an authentication tag from an outbound message. Brandsat describes the use of an XOR operation when generating an authentication tag from a single message, i.e., an outbound message for a network packet.

For example, at col. 21, ll. 4-46, Brandstad states that an authentication tag can be computed for an outbound network message using a reversible inner function:

In the embodiment of FIG. 15, the sender computes an authentication tag using a reversible inner function 1502. An intermediate result is generated by reversible inner function 1502 and used by outer function 1506 to generate an authentication tag as described above (emphasis added).

At col. 22, ll. 2-21, the portion of Branstad relied upon by the Examiner, Branstad elaborates on the reversible inner function used to compute the authentication tag for an outbound message by employing XOR operations and rotations. Branstad then clarifies that the receiver computes an authentication tag from the received message using the same mechanism. **Then, the received authentication tag and the computed tag are compared. However, the XOR operation is not used for comparing the tags, it is used to compute the individual tags.**

Thus, the XOR operation referred to by the Examiner is not applied to two strings for comparison purposes. To the contrary the XOR operation of Branstad is used to generate a cryptographic tag from a message to be sent over a network (i.e., a packet) or to generate a cryptographic tag from a received message. In either case, the inputs to the XOR operation of Branstad are data words of the same message. In no manner is the XOR operation applied between two different messages to provide an output that can be used as an indication of a match. For at least this reason, Branstad in view of Fielding fails to establish a prima facie case for non-

Application Number 09/975,286

Responsive to Office Action mailed October 4, 2005

patentability of Applicant's claims under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

Secondly, Applicant's claim 1 as amended requires identifying a case-insensitive string match between the predefined string and the unknown string by *applying a predetermined flag to a result of the exclusive OR operation* to produce an indicator for the case-insensitive string match. In other words, the predetermined flag (e.g., a predetermined binary flag) is applied directly to the result of the XOR operation, and that application produces an indicator for identifying a case-insensitive match between the two strings. The practical advantage of this approach is that this single application can be used to determine whether the strings match even if the strings contain the same characters but having different cases, such as "ABCD" and "abcd." By applying correct predetermined binary flags directly to the result of the XOR operations, an indicator of a case-insensitive match can essentially be directly computed regardless of the actual cases of the strings.

Branstad in view of Fielding fails to teach or suggest such features. In rejecting claim 1, the Examiner states that Fielding discloses well-known usage of strings having an ASCII binary representation and concludes that it would be obvious to modify the teachings of Branstad with the teaching of Fieldings to achieve Applicant's invention.

However, as discussed above, the XOR operation of Branstad referred to by the Examiner produces a KR5 cryptographic authentication tag from a single message. Even if the outbound message were an ASCII string, as suggested by Fielding, Branstad in view of Fielding teaches only application of an XOR operation to an outbound string to generate a cryptographic authentication tag from the string itself and no other string is even contemplated. Application of a predetermined flag to the cryptographic authentic tag produced by the XOR operation of Branstad in view of Fielding, as suggested by the Examiner, would in no manner produce an indicator of a case-insensitive string match, as further recited by Applicant's claim 1.

None of the references, either singularly or in combination, teach or suggest performing a bitwise exclusive OR operation on an ASCII binary representation of at least a segment of the unknown string and an ASCII binary representation of at least a segment of the predefined string, and identifying a case-insensitive string match between the predefined string and the unknown

Application Number 09/975,286
Responsive to Office Action mailed October 4, 2005

string by applying a predetermined flag to a result of the exclusive OR operation to produce an indicator for the case-insensitive string match, as required by claim 1.

For these or other reasons, none of the references, either singularly or in combination, teach or suggest comparing a predefined string to an unknown string by performing at least one bitwise exclusive OR operation *between* characters of the predefined string and the corresponding characters of the unknown string, and identifying a case-insensitive string match by performing *a bitwise AND operation between a result of the bitwise operation and a predetermined flag to produce a single bit output that indicates whether a case-insensitive match exists between the predefined string and the unknown string*, as required by claim 24.

Claims 25 and 26 are patentable for at least the reasons set forth above.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

By:

January 4, 2006
SHUMAKER & SIEFFERT, P.A.
8425 Seasons Parkway, Suite 105
St. Paul, Minnesota 55125
Telephone: 651.735.1100
Facsimile: 651.735.1102

Kent J. Sieffert
Name: Kent J. Sieffert
Reg. No.: 41,312